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Mika Aalto

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EXAMINER

MUSA, ABDELNABI O

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/529,195	Applicant(s) AALTO ET AL.	
	Examiner ABDELNABI O. MUSA	Art Unit 2446	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 February 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 18, 19, 21, 26, 28, 33-38, 44-47, 51 and 52 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 18, 19, 21, 26, 28, 33-38, 44-47, 51 and 52 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Acknowledgment is made for the applicant's response and amendment filed on 02/17/2009.

Remarks

2. The claims are presented as follows:
- Claims 1-3, 18-19, 21, 26, 28, 33-38, 44-47 are amended.
 - Claims 4-17, 20, 22-25, 27, 29-32, 39-43, 48-50 are canceled.
 - Claims 51, 52 are new.
 - Claims 1-3, 18-19, 21, 26, 28, 33-38, 44-47, 51-52 are pending.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3,18-19,21,26, 28, 33-38, 44-47, 51-52 rejected under 35 U.S.C. 103(a) as being unpatentable over Loa Patent No (US. 6,314,095 B1) in view of Yoshimura et al. Pub. No. (US 2002/0126675 A1).

As per **claim 1** Loa teaches a method comprising:

receiving a data packet at an input interface (receive IP data packet at the input 210 Col.2, Line 14; FIG.2), said data packet comprising a header section and a payload section (data packet contains header and payload section col.27, line 27-39 FIG.2),

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said header section comprising a compressed header section containing coded information including routing information (compressed header section containing coded information col.1, line 65; col.2, line10; FIG.2) ;

decompressing said routing information from said compressed header section (decompressing routing information at the destination 170 Col.2, Line 31-50; FIG.1);

routing said data packet to an output interface (routing data packets to a destination col.3, line 1-3; FIG.1); and

forwarding said data packet to said output interface (col.3, line 1-3; FIG.1), wherein said routing step comprises ascertaining said routing information from said compressed header section (routing packets between units is based on reading IP address to each unit col.2, line 63-col.3, line 1-13; FIG.2), and wherein said coded information is left unchanged by said routing and forwarding (routing the coded packet to its destination without compression/decompression at each router col.3, line 4; FIG.1)

Loa fails to explicitly teach wherein decompressing routing information including at least a part of said decompressed routing information into said data packet

However, Yoshimura teaches a packet transmission method and system for dividing a normal transmission packet into a plurality of data units each having a shorter data length, and scheduling transmission order of those data units and attaching the data packet in front of the header to be decompressed first, as shown in shown in FIG. 16, the header decompressing process is applied to the assembled header compressed packet by the header decompression part 1401 (S1606), and the decompressed IP packet is then transferred ([0036] [0062] [0108] [0113] FIG.14)

It would have been obvious to a person having ordinary skilled in the art at the time the invention was made to have modified Loa by the teaching of Yoshimura to include a part of said decompressed routing information into said data packet efficiently minimize the amount of data transmitted and effectively make the receiving process more effective at the destination.

As per **claim 2** Loa teaches a method according to claim 1, wherein said ascertaining comprises reading a first header compression context identifier from said compressed header section (informing other units of the IP address of the compressed header packets when transmitted col.2, line 63; FIG.1)

As per **claim 3** Loa teaches a method according to claim 1, wherein said routing comprises assigning a second header compression context identifier to said data packet and replacing said first header compression (120 FIG.1) context identifier by said second header compression context identifier in said data packet (The header compression engine 120 receives data packet 210 from the packet skimmer 110 and compresses the IP/UDP/RTP header based on an RTP header compression algorithm col.2, line 51-67; FIG.1)

As per **claim 18** Loa teaches a method according to claim 1, but does not teach wherein said part of said decompressed header is attached to said data packet in front

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of said header section, such that said part of said decompressed header can be forwarded before said header section.

However, Yoshimura teaches a packet transmission method and system for dividing a normal transmission packet into a plurality of data units each having a shorter data length, and scheduling transmission order of those data units and attaching the data packet in front of the header to be decompressed first ([0002] [0036] [0062] FIG.12)

It would have been obvious to a person having ordinary skilled in the art at the time the invention was made to have modified Loa by the teaching of Yoshimura to attach a data packet in front of the header and to have the decompressed part arrive before the header section to efficiently reduce the amount of the transmitted information.

As per **claim 19** Loa teaches a method according to claim 1, comprising, removing at least a part of said decompressed header from said data packet (executing policy actions including dropping part of the decompressed data packet col.2, Line 31-50).

As per **claim 21** Loa teaches a method according to claim 2, comprising classifying said data packet according to a service class (switching data packet in according to class of quality of service col.2, line 45-50; FIG2)

As per **claim 26** Loa teaches a method accord to claim 21, wherein said forwarding comprises placing said data packet into one of a plurality of queues, the chosen queue corresponding to a value of said classification code point (switching the data packet 210 to a class of quality-of-services queues based on the queuing policy col.2, line 46-50)

As per **claim 28** Loa teaches a method according to claim 1, but does not teach wherein said forwarding comprises radio or microwave transmission of said data packet.

However, Yoshimura teaches a packet transmission method and system for dividing a normal transmission packet into a plurality of data units each having a shorter data length whereas the transmission comprises radio transmission ([0015] [0036] [0062] FIG.2)

It would have been obvious to a person having ordinary skilled in the art at the time the invention was made to have modified Loa by the teaching of Yoshimura to have the transmission as a radio or microwave transmission to efficiently maintain the quality of transmission and achieve minimal delay of the real-time type packets in the radio or microwave transmission while maintaining the reliability of the data type packets.

As per **claim 33** Loa teaches an apparatus, comprising an input interface configured to receive at least one data packet containing compressed data (receive IP data packet at the input 210 Col.2, Line 14; FIG.2), a decompressor (170 FIG.1)

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configured to communicate with said input interface and adapted to decompress said compressed data such that decompressed data are created based on said compressed data (compressed header section containing coded information col.1, line 65; col.2, line10; FIG.2), and an output interface configured to communicate with said decompressor and to provide said decompressed data of said data packet (routing data packets to a destination col.3, line 1-3; FIG.1), wherein said decompressor is configured to selectively decompress only compressed header data contained in a header section of said data packet (decompressing routing information at the destination 170 Col.2, Line 31-50; FIG.1),

Loa fails to explicitly teach wherein the decompressor is configured to decompress said routing information from said compressed header information and to include at least a part of said decompressed routing information into said data packet.

However, Yoshimura teaches a packet transmission method and system for dividing a normal transmission packet into a plurality of data units each having a shorter data length, and scheduling transmission order of those data units and attaching the data packet in front of the header to be decompressed first, as shown in shown in FIG. 16, the header decompressing process is applied to the assembled header compressed packet by the header decompression part 1401 (S1606), and the decompressed IP packet is then transferred ([0036] [0062] [0108] [0113] FIG.14)

It would have been obvious to a person having ordinary skilled in the art at the time the invention was made to have modified Loa by the teaching of Yoshimura to include a part of said decompressed routing information into said data packet efficiently

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minimize the amount of data transmitted and effectively make the receiving process more effective at the destination.

As per **claim 34** Loa teaches an apparatus according to claim 33, wherein said decompressor (170 FIG.1) is configured to access a header compression context table (routing packets based on routing table col.2, line 20-29) and is adapted to decompress said compressed data using at least one of data contained in at least one predetermined section of said header compression context table, and at least one predetermined mathematical decompression rule (the header decompression unit comprises three components for decompression packets col.1, line 65-col.2, line 10; FIG.1)

As per **claim 35** Loa teaches an apparatus according to claim 33, wherein said decompressor (170 FIG.1) is adapted to decompress from said compressed header section an identifier of an external network node that is the destination of said data packet (informing other units of the IP address of the compressed header packets when transmitted col.2, line 63; FIG.1)

As per **claim 36** Loa teaches an apparatus according to claim 35, wherein said decompressor is adapted to decompress only said identifier of said network node that is the destination of said data packet (the header decompression engine 190 decompress the IP header section col.3, line 39-50)

As per **claim 37** Loa teaches an apparatus according to claim 33, wherein said decompressor is adapted to decompress said complete compressed header section of said data packet (the decompression unit 170 decompresses data packets in cooperation with all three components col.3, line 50-col.4, line.16)

As per **claim 38** Loa teaches an apparatus according to claim 33, wherein said decompressor is adapted to decompress a service classification code element from said compressed header section (decompressing a class of quality of service col.2, line 31-50; FIG.2)

As per **claim 44** Loa teaches an apparatus comprising at least one input port adapted to receive at least one data packet through at least one first communication link (receive IP data packet at the input 210 Col.2, Line 14; FIG.2), and a plurality of output ports (plurality of destinations/voice channels col.4, line 1-16), wherein said input port comprises a reader adapted to read a first header compression context identifier from a compressed header section (informing other units of the IP address of the compressed header packets when transmitted col.2, line 63; FIG.1), and a switcher switching unit adapted to replace said first header compression context identifier by a second header compression identifier (The packet skimmer 110 is an IP switch with the capability of matching the header and payload of the IP packet 210 col.2, line11-30; FIG.2),

Loa fails to explicitly teach wherein the apparatus is configured to decompress routing information from said compressed header section, and to include at least a part of said decompressed routing information into said data packet.

However, Yoshimura teaches a packet transmission method and system for dividing a normal transmission packet into a plurality of data units each having a shorter data length, and scheduling transmission order of those data units and attaching the data packet in front of the header to be decompressed first, as shown in shown in FIG. 16, the header decompressing process is applied to the assembled header compressed packet by the header decompression part 1401 (S1606), and the decompressed IP packet is then transferred ([0036] [0062] [0108] [0113] FIG.14)

It would have been obvious to a person having ordinary skilled in the art at the time the invention was made to have modified Loa by the teaching of Yoshimura to include a part of said decompressed routing information into said data packet efficiently minimize the amount of data transmitted and effectively make the receiving process more effective at the destination.

As per **claim 45** Loa teaches an apparatus according to claim 44, wherein said switcher is configured to communicate with a switching table assigning to said first header compression context identifier said second header compression context identifier and at least one output port identifier (The packet skimmer 110 exchanges IP routing information with directly connected IP routers 140 to build the dynamic routing entries in the routing table col.2, line20-50; FIG.2)

As per **claim 46** Loa teaches an apparatus according to claim 45, further comprising a controller communicating with said reader and said switching table (proxy engine 130 col.2, line63-col.3, line20; FIG.1), and adapted to detect a new first header compression context identifier received at said reader (detecting a new header compression unit col.4, line6-10), to assign a new second header compression context identifier and an output port identifier to said first header compression context identifier, and to create at least one entry in said switching table for said identifiers, one entry for each assignment of an output port (The packet skimmer 110 exchanges IP routing information with directly connected IP routers 140 to build the dynamic routing entries in the routing table col.2, line20-50; col.3, line 1-20; FIG.2)

As per **claim 47** Loa teaches an apparatus according to claim 46, wherein said controller is additionally adapted to erase said entry in said switching table given a predetermined condition (col.2, line 20-30;FIG.2)

As per **claim 51** Loa teaches an apparatus according to claim 33, wherein the apparatus comprises a decompressor device (decompressor unit 170 col.1, line 66; FIG.2).

As per **claim 52** Loa teaches an apparatus according to claim 44, wherein the apparatus comprises a router device (router device 140 col.2, line 8; FIG.1)

Response to Arguments

4. Applicant's arguments with respect to the above treated claim(s) have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

When responding to this office action, Applicant is advised to clearly point out the patentable novelty which he or she thinks the claims present, in view of the state of the art disclosed by the references cited or the objections made. He or she must also show how the amendments avoid such references or objections See 37 CFR 1.111(c).

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Abdelnabi O. Musa whose telephone number is 571-2701901. The examiner can normally be reached on Monday Thru Friday: 7:30am to 5:00pm (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Pwu can be reached on 571-2726798. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. O. M./
Examiner, Art Unit 2446

/Jeffrey Pwu/
Supervisory Patent Examiner, Art Unit 2446

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